

**When  
Moving  
Hurts**



**Assess  
Understand  
Take Action**

## **GLOBAL YEAR AGAINST MUSCULOSKELETAL PAIN**

OCTOBER 2009 – OCTOBER 2010

### **Acute Musculoskeletal Pain**

#### **Introduction**

Acute musculoskeletal pain is pain perceived within a region of the body, and believed to arise from the muscles, ligaments, bones, or joints in that region. Excluded from the definition is pain due to serious local causes, such as tumors, fractures, or infections, and systemic and neurological causes. Types of pain are named according to the region affected, e.g., back pain, neck pain, shoulder pain, elbow pain, buttock pain, hip pain, knee pain, and ankle pain.

#### **Epidemiology and Economics**

Musculoskeletal pain so common as to be regarded, by some, as a normal part of life. Serious causes are rare; the natural history is generally benign. Most episodes are self-limiting. Economic costs arise when acute musculoskeletal pain is investigated and treated unnecessarily.

#### **Pathophysiology**

- Acute musculoskeletal pain involves the activation of nociceptors in muscles, ligaments, or joint capsules. Pain after exertion or injury is attributed to sprains of muscles or ligaments. In the absence of injury, the pathology is not known.
- Pain from a muscle can be referred to the joint on which that muscle operates. Pain in a joint, therefore, does not necessarily imply a source of pain in that joint. The source may be in one of the nearby muscles.

#### **Clinical Features**

- The cardinal clinical features are pain, tenderness, and impaired range of movement. None of these features is specific for any particular cause or source of pain. Tenderness cannot be distinguished from hyperalgesia in structures surrounding the actual source of pain.
- Physical examination generally lacks either reliability or validity, or both, for pinpointing any particular source of pain. Medical imaging is typically not diagnostic. Changes commonly blamed as the cause of pain amount to no more than normal age-related changes.

#### **Diagnostic Criteria**

- The essential diagnostic criteria are pain and tenderness in a particular region, in the absence of any serious pathology. In cases with a recent history of injury, swelling is the cardinal distinguishing sign of injury.
- The cardinal diagnostic requirement is to exclude detectable and serious causes of pain. Serious causes are suggested by advanced age (Paget's disease, myeloma), a history of trauma (fractures), malignancy (metastases), body penetration (infection), or use of steroids (osteoporosis, osteonecrosis). Physical examination should exclude deformities, lumps, exquisite tenderness, and signs of systemic illness.
- Imaging is generally not indicated or required. It typically shows nothing diagnostic. Imaging should be reserved for patients who reveal suspicious findings on history or examination.
- The differential diagnosis includes referred pain from viscera or blood vessels, peripheral vascular disease, and thromboembolism.

## Treatment

- For acute sprains of muscles or ligaments, the conventional wisdom is that treatment should encompass rest, initial immobilization, application of cold, and subsequent exercise.
- In the absence of injury, few traditional interventions have proved valid when subjected to scientific scrutiny. Nonsteroidal anti-inflammatory agents are not always more effective than paracetamol (acetaminophen) or placebo. Injections of steroids may be effective for a few weeks, but they are not necessarily more effective than injections of local anesthetic alone, or other treatments.
- The cardinal therapeutic asset is the favorable natural history of acute musculoskeletal pain. This needs to be explained convincingly to patients as a therapeutic intervention. Thereafter, the patient should be urged and aided to resume and maintain normal activity, including work.
- For acute neck pain, the best evidence supports reassuring the patient, and having him or her resume normal activities and perform exercises to keep the neck mobile.
- For acute low back pain, strong evidence supports explanation, reassurance, and having the patient keep active as the most effective regimen of treatment. Passive therapies should be avoided.

## References

1. Australian Acute Musculoskeletal Pain Guidelines Group. Evidence-based management of acute musculoskeletal pain. Brisbane: Australian Academic Press; 2003. Available at: <http://www.nhmrc.gov.au>.
2. Bogduk N, McGuirk B. Medical management of acute and chronic low back pain. an evidence-based approach. Amsterdam: Elsevier; 2002.
3. Bogduk N, McGuirk B. Medical management of acute and chronic neck pain. an evidence-based approach. Amsterdam: Elsevier; 2006.

